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duced into the parietal nucleus of the cell is part of the process which propagates the cell; that the mode of reproduction of cells is essentially fissiparous, and that the process of assimilation prepares them for being cleft.

A pellucid point is described by the author as being "contained in a certain part of the cell-wall, and as representing the situation of a highly pellucid substance, originally having little if any colour." This substance, which he considers as being primogenital and formative, he denominates *hyaline*, and ascribes to it the following properties. It appropriates to itself new matter, thus becoming enlarged; then divides and subdivides into globules, each of which passes through changes of the same kind. Under certain circumstances, it exhibits a contractile power, and performs the motions called *molecular*. It is the seat of fecundation, and it is by its successive divisions that properties descend from cell to cell, new properties being continually acquired as new influences are applied; but the original constitution of the hyaline not being lost. The main purpose for which cells are formed is to reproduce the hyaline; and this they do by effecting the assimilation which prepares it to divide; such division being thus the essential part of fissiparous generation.

The remaining part of the paper is occupied with a detailed account of these processes as they occur in the development of the ovum, and also in the changes exhibited by the corpuscles of the blood, in which fissiparous reproduction also takes place, and the red blood-disks are converted into fibrin, and thus give origin to the various tissues of the organs. The same theory of fissiparous reproduction he also applies to the formation of the muscular fibre, in connexion with his belief that it is composed of a double spiral filament. Contractile cilia, he supposes, are also formed by the elongation of nuclei, the filaments proceeding from them in opposite directions. The author considers, lastly, the subject of the fissiparous reproduction of the Infusoria, and particularly of the *Volvox globator*, the *Chlamydomonas*, *Baccillaria*, *Gonium*, and the *Mona-dina* in general; and applies the same theory to gemmiparous reproduction, and to the so-called spontaneous generation of infusoria and parasitic entozoa.

February 23, 1843.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

James Meadows Rendel, Esq., was balloted for, and duly elected a Fellow of the Society.

The following papers were read, viz.—

1. "Researches on the Decomposition and Disintegration of Phosphatic Vesical Calculi; and on the introduction of Chemical

decomponents into the living Bladder." By S. Elliott Hoskins, M.D. Communicated by P. M. Roget, M.D., Sec. R.S.

The object of these researches was the discovery of some chemical agent, more energetic in its action on certain varieties of human calculi, and less irritating when injected into the bladder, than any of the fluids hitherto employed.

These indications not being fulfilled by dilute acids, or other solvents which act by the exertion of single elective affinity, the author investigated the effects of complex affinity in producing decomposition, and consequent disintegration, of vesical calculi.

For this purpose an agent is required, the base of which should unite with the acid of the calculus, whilst the acid of the former should combine and form soluble salts with the base of the latter. The combined acids would thereby be set free in definite proportions, to be neutralized in their nascent state, and removed out of the sphere of action, before any stimulating effect could be exerted on the animal tissue.

These intentions the author considers as having been fulfilled by the employment of weak solutions of some of the vegetable super-salts of lead; such as the supermalate, saccharate, lactate, &c. The preparation, however, to which he gives the preference, is an acid saccharate, or, as he calls it, a *nitro-saccharate of lead*.

The salt, whichever it may be, must be moistened with a few drops of acetic, or of its own proper acid, previous to solution in water, whereby alone perfect transparency and activity are secured. He furthermore states, that the decomposing liquid should not exceed in strength one grain of the salt to each fluid-ounce of water, as the decomposing effect is in an inverse ratio to its strength.

Having by experiments which are fully detailed ascertained the chemical effects of the above class of decomponents on calculous concretions *out* of the body, the author briefly alludes to the cases of three patients, in each of whom from four to eight ounces of these solutions had been repeatedly, for weeks together, introduced into the bladder, and retained in that organ without inconvenience for the space of from ten to fifty minutes.

It not being the intention of the author to enter into the medical history of these cases, he merely cites the above facts as sufficient to establish the principle originally laid down; namely, chemical decomposition of phosphatic calculi, by means of solutions so mild as to be capable of retention in the living human bladder without irritation or inconvenience.

2. "A Method of proving the three leading properties of the Ellipse and the Hyperbola from a well-known property of the Circle." By Sir Frederick Pollock, Knt., F.R.S., Her Majesty's Attorney General. Communicated in a letter to P. M. Roget, M.D., Secretary to the Royal Society.

In this communication, the author first demonstrates the well-known property of the circle, that if from a point in the diameter produced there be drawn a tangent to the circle, and from the point